

Exelon Generation Company, LLC
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450-9765

www.exeloncorp.com

Nuclear

10 CFR 50.73

October 29, 2004

SVPLTR: #04-0071

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DRP-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

Subject: Supplemental Licensee Event Report 2004-003-01, "Unit 3 Scram Due to Loss of Offsite Power and Subsequent Inoperability of the Standby Gas Treatment System for Units 2 and 3"

Enclosed is Supplemental Licensee Event Report 2004-003-01, "Unit 3 Scram Due to Loss of Offsite Power and Subsequent Inoperability of the Standby Gas Treatment System for Units 2 and 3," for Dresden Nuclear Power Station. This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A), "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section," and 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications."

Should you have any questions concerning this report, please contact Jeff Hansen, Regulatory Assurance Manager, at (815) 416-2800.

Respectfully,



Danny G. Bost
Site Vice President
Dresden Nuclear Power Station

Enclosure

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

IE22

NRC FORM 366 (7-2001)			U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OBM NO. 3150-0104 EXP 7-31-2004					
LICENSEE EVENT REPORT (LER)											
1. FACILITY NAME Dresden Nuclear Power Station Unit 3						2. DOCKET NUMBER 05000249		3. PAGE 1 of 4			
4. TITLE Unit 3 Scram Due to Loss of Offsite Power and Subsequent Inoperability of the Standby Gas Treatment System for Units 2 and 3											
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED		
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
05	05	2004	2004 - 003 - 01			10	29	2004	Dresden Unit 2	05000237	
									FACILITY NAME	DOCKET NUMBER	
									N/A	N/A	
9. OPERATING MODE		1		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
10. POWER LEVEL		100		20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)	
				20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)	
				20.2203(a)(1)		50.36(c)(1)(i)(A)		X	50.73(a)(2)(iv)(A)		73.71(a)(4)
				20.2203(a)(2)(I)		50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)		73.71(a)(5)
				20.2203(a)(2)(ii)		50.36(c)(2)			50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A
				20.2203(a)(2)(iii)		50.46(a)(3)(ii)			50.73(a)(2)(v)(C)		
				20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)			50.73(a)(2)(v)(D)		
				20.2203(a)(2)(v)		X	50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)						
20.2203(a)(3)(I)		50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)						
12. LICENSEE CONTACT FOR THIS LER											
NAME George Papanic Jr.						TELEPHONE NUMBER (Include Area Code) (815) 416-2815					
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT											
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX							
X	FK	BRK	I005	N							
14. SUPPLEMENTAL REPORT EXPECTED									15. EXPECTED SUBMISSION DATE		
YES (If yes, complete EXPECTED SUBMISSION DATE)					X	NO	MONTH		DAY	YEAR	

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On May 5, 2004, at 1327 hours (CDT), with Unit 3 at 100 percent power in Mode 1, an automatic scram occurred due to a Main Generator Load Reject when a loss of offsite power occurred. The Emergency Diesel Generators automatically started and powered their respective electrical busses. All control rods fully inserted and Group I, II and III isolations occurred as expected. Operations personnel manually initiated the Isolation Condenser System for reactor pressure control, the High Pressure Coolant Injection System for reactor water level control, and the Low Pressure Coolant Injection System for Torus cooling. All systems initially responded to the scram as expected except the Standby Gas Treatment System was unable to maintain the Secondary Containment at the Technical Specification Surveillance Requirement limit of greater than or equal to 0.25 inches of vacuum water gauge. An Unusual Event for the loss of offsite power was declared at 1342 hours (CDT) and terminated at 1601 hours (CDT) on May 5, 2004. Additionally, during restoration of offsite electrical power to Bus 33, the Emergency Diesel Generator 2/3 output electrical breaker tripped.

The root causes associated with the load reject and loss of offsite power and the low Secondary Containment vacuum were respectively, equipment failure in the "C" phase of the 345 kilovolt circuit breaker 8-15 and a degraded Secondary Containment boundary not detected due to an inadequate leak rate test procedure. The investigation into the apparent cause of the Emergency Diesel Generator output breaker trip was indeterminate.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
Dresden Nuclear Power Station Unit 3	05000249	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		2004	003	01	

17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

Dresden Nuclear Power Station (DNPS) Units 2 and 3 are a General Electric Company Boiling Water Reactor with a licensed maximum power level of 2957 megawatts thermal. The Energy Industry Identification System codes used in the text are identified as [XX].

A. Plant Conditions Prior to Event:

Unit: 03	Event Date: 5-5-2004	Event Time: 1327 CDT
Reactor Mode: 1	Mode Name: Power Operation	Power Level: 100 percent
Reactor Coolant System Pressure: 1000 psig		

B. Description of Event:

On May 5, 2004, electrical breaker switching was being performed in the DNPS switchyard to support the testing of a 345 kilovolt (kv) offsite electrical line. A loss of offsite power (LOOP) occurred to Unit 3 when 345 kv breaker 8-15 [BKR] located in the switchyard [FK] was opened.

On May 5, 2004, at 1327 hours (CDT), with Unit 3 at 100 percent power in Mode 1, an automatic scram occurred due a Main Generator Load Reject when the LOOP occurred. The Emergency Diesel Generators (EDGs) [DG] automatically started and powered their respective electrical busses. All control rods fully inserted and Group I, II and III isolations occurred as expected. Operations personnel manually initiated the Isolation Condenser System [BL] for reactor pressure control, High Pressure Coolant Injection System [BJ] for reactor water level control, and Low Pressure Coolant Injection System [BO] for Torus cooling. All systems initially responded as expected to the scram except for the Standby Gas Treatment System (SGT) [BH] that was unable to maintain the Secondary Containment at the Technical Specification Surveillance Requirement limit of greater than or equal to 0.25 inches of vacuum water gauge. Secondary containment was declared inoperable for Units 2 and 3.

An Unusual Event for the LOOP was declared at 1342 hours (CDT). An ENS call was made at 1429 hours (CDT) for the above-described event. The assigned ENS event number was 40727.

At 1558 hours (CDT), the EDG 2/3 output electrical breaker tripped on reverse power during restoration of offsite electrical power to Bus 33 that was being fed from EDG 2/3. Bus 33 remained powered from the offsite source.

The Unusual Event was terminated at 1601 hours (CDT) when offsite power was restored to Unit 3.

At 1630 hours (CDT), SGT was declared operable when the Secondary Containment pressure was restored to greater than 0.25 inches of vacuum water gauge.

This event is being reported in accordance with:

- 10 CFR 50.73(a)(2)(iv)(A), "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section," and
- 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications."

These events are addressed in the NRC Special Inspection Report Number 05000249/2004009 dated June 21, 2004.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
Dresden Nuclear Power Station Unit 3	05000249	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 4
		2004	003	01	

17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

C. Cause of Event:

The root causes associated with the load reject and LOOP and the low Secondary Containment vacuum were respectively, equipment failure in the "C" phase of the 345 kv circuit breaker 8-15 and a degraded secondary containment boundary not detected due to an inadequate leak rate test procedure. The investigation into the apparent cause of the EDG 2/3 output breaker trip was indeterminate.

The equipment failure of the 345 kv circuit breaker 8-15 circuit breaker occurred due to age-related and application related degradation. The vendor, prior to the event, did not provide information to Exelon Corporation, a product advisory issued in July 2003, regarding the possibility of breaker slow operation or failure to operate. This is applicable to circuit breakers 8-15 and 6-7. The corrective action to prevent reoccurrence is to revise the preventative maintenance procedure governing both circuit breakers 8-15 and 6-7 to implement the product advisory recommendations.

The degraded secondary containment boundary resulted from air in-leakage into the Unit 2 Drywell and Torus Purge Exhaust (DTPE) filter housings. At the time of the event, Unit 2 was in a maintenance outage and the DTPE fans were in operation due to activities in the Unit 2 drywell. The DTPE fans are not normally in operation and the secondary containment leak rate test procedure does not test with the DTPE fans operating as a part of the secondary containment barrier. Two corrective actions to prevent reoccurrence are being taken:

The first is to modify the current design to trip the DTPE fans on both units following an automatic SGT system initiation from either unit, rather than operate the DTPE fans during the secondary containment leak rate test. The second action is to develop a source document that clearly identifies the secondary containment boundaries.

The investigation into the apparent cause of the EDG 2/3 output breaker trip was indeterminate. The investigation identified an electrical relay that should have prevented the trip from occurring and the relay was sent to an offsite lab for analysis. No faults could be found with the relay when it was operated electrically. The lab did identify that one of the relay contacts would hang up when it was actuated manually, however, this is not the method used to actuate the relay when it is installed in the plant. The investigation concluded that the most probable cause for the EDG 2/3 output breaker trip was due the effect of the electrical transient experienced during the LOOP on contact fingers within an electrical relay which resulted in an automatic out-of-phase paralleling of offsite power with the EDG. Dresden procedure DGA 12, "Partial/Complete Loss of AC Power," was revised to require that affected transformer feed breaker control switches be placed in the pull-to-lock position during the restoration of normal off-site power sources, to preclude automatic operation of the breakers.

D. Safety Analysis:

The safety significance of the LOOP event was minimal. All systems initially responded as expected to the scram except for the SGT system that was unable to maintain the secondary containment at the Technical Specification Surveillance Requirement limit of greater than or equal to 0.25 inches of vacuum water gauge. However, secondary containment was maintained at a negative pressure at all times during the event. The EDGs were supplying power to their respective busses, as designed, and offsite power was available through Unit 2.

Therefore, the consequences of this event had minimal impact on the health and safety of the public and reactor safety.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
Dresden Nuclear Power Station Unit 3	05000249	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 of 4
		2004	003	01	

17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

E. Corrective Actions:

345 kv circuit breaker 8-15 was repaired and a vendor upgrade kit was installed. The circuit breaker upgrade kit will be installed on circuit breaker 6-7 at the next available opportunity.

The preventive maintenance procedure for circuit breakers 8-15 and 6-7 will be revised to incorporate appropriate vendor advisory recommendations.

DNPS procedures were revised to require the securing of the DTPE Fans upon initiation of SGT.

The DTPE filter housing in-leakage has been repaired to correct air in leakage.

The SGT initiation logic will be changed to include the tripping of the DTPE Fans for both units.

The final corrective actions to prevent reoccurrence for the Emergency Diesel Generator output breaker will be described in a supplemental report scheduled to be submitted no later than October 30, 2004.

Dresden procedure DGA 12 was revised to require that affected transformer feed breaker control switches be placed in the pull-to-lock position during the restoration of normal off-site power sources, to preclude automatic operation of the breakers.

F. Previous Occurrences:

A review of Dresden Nuclear Power Station Licensee Event Reports (LERs) and operating experience identified the following LER.

Unit 3 LER 89-001-01 described a March 25, 1989, event in which an electrical fault in the 345 kilovolt circuit breaker 8-15 phase A internal ground capacitor and slow transfer of the 4 kv Bus 32 from transformer 32 to 31 caused a LOOP for Unit 3. The corrective actions included the removal of the internal ground capacitors from 345 kilovolt circuit breaker 8-15.

G. Component Failure Data:

I.T.E. Power Circuit Breaker, Model C Type GA